UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,987	03/12/2004	Vijay Deshmukh	5693P052	6878

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NETWORK APPLIANCE/BLAKELY
12400 WILSHIRE BLVD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER
LIE, ANGELA M

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/798,987	DESHMUKH ET AL.
	Examiner	Art Unit
	Angela M. Lie	2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

　　4a) Of the above claim(s) *24-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Restrictions

I.   Claims 1-23, drawn to a storage system for determining first and second

paths on the storage server and storing the information, classified in class

707, subclass 102.

II.   Claims 24-28, drawn to, classified in class 707, subclass 101.

1.   Inventions of group I and group II are related as process and apparatus for its

practice. The inventions are distinct if it can be shown that either: (1) the process as

claimed can be practiced by another and materially different apparatus or by hand, or

(2) the apparatus as claimed can be used to practice another and materially different

process. (MPEP § 806.05(e)). In this case the storage system as disclosed in group I

does not comprise summarizing compartment, which is clearly required by the method

of group II.

Election

2.   During a telephone conversation with Jordan Becker on September 12, 2006 a

provisional election was made without traverse to prosecute the invention of group I,

claims 1-23. Affirmation of this election must be made by applicant in replying to this

Office action. Claims 24-28 are withdrawn from further consideration by the examiner,

37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

3.   New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because the current drawings are hand written and certain portions of the

drawings are hard to read and therefore it is impossible to clearly examine them.

Applicant is advised to employ the services of a competent patent draftsperson outside

the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

The corrected drawings are required in reply to the Office action to avoid abandonment

of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

4.   Claim 9 is objected to because of the following informalities: the applicant states

that a database server is coupled to the agent, however it is uncertain which agent is

the database connected to i.e. first or second or maybe both.

5.   Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

7.   Claims 1 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the

invention. In particular the examiner is not certain how the applicant determined a first

and a second paths. The disclosure does not clearly show how such a determination

takes place. For instance the figure 3C, shows a tree divided into two sub-trees, if those

two "paths", mainly elements 372 and 374 are scanned by two different agents, then

what happens to the parent node, that does not belong to any of the sub-trees?

Furthermore, how does the applicant decide which sub-tree should be processed by

which agent, is it random or predefined? That information is essential to fully understand

the claimed invention. Since entire invention is dependent upon this determination, the

remaining steps, following the determination step, could not be performed.

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

9.   Claims 1, 9 and 16 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

10.   The term "file walk" in claims 1 and 16 is a relative term which renders the claim

indefinite. The term "file walk" is not defined by the claim, the specification does not

provide a standard for ascertaining the requisite degree, and one of ordinary skill in the

art would not be reasonably apprised of the scope of the invention. In particular, the

specification in paragraph 271, only shows the alternative between words "scan" and

"file walk", however to the best of the examiner's knowledge, the application does not

have a solid definition for "file walk". In this particular case the definition of such a term

is essential, since it is not a common wording known to one of the ordinary skill in the

art.

11.   The term "storing" in claims 1 and 16 is a relative term which renders the claim

indefinite, because it is not clearly disclosed where those information should be stored,

i.e. if there is no physical storage device, nothing can be stored.

        Claims 4 and 19 recite the limitation "file system" in the first line. There is

insufficient antecedent basis for this limitation in the claim.

12.   Where applicant acts as his or her own lexicographer to specifically define a term

of a claim contrary to its ordinary meaning, the written description must clearly redefine

the claim term and set forth the uncommon definition so as to put one reasonably skilled

in the art on notice that the applicant intended to so redefine that claim term. *Process

Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed.

Cir. 1999). The term "path" in claims 1, 9 and 16 is used by the claims to mean "sub

tree", while the accepted meaning is "cluster." The term is indefinite because the

specification does not clearly redefine the term. Furthermore if the sub tree consists of

three nodes wherein there are two possible paths from the parent to each of its child

nodes, then it creates confusion since the whole sub-tree and the relation between two

nodes are called paths. The term path is often defined as a connection between two

points, wherein the sub-tree can comprise more than one path and therefore it is very

unclear how the path used by the applicant, can be put into use in the claimed

invention.

Claim Rejections - 35 USC § 101

13. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. **Claims 1-4, 6-8, 16-19 and 21-23 are rejected under 35 U.S.C. 101** because

the claimed invention lacks patentable utility. The above listed claims lack useful and

tangible result. As set forth in the 35 U.S.C 112 first paragraph above, the step of

determining first and second paths is not enabling therefore result is not tangible.

Further the result also is not useful because the storage device on which the information

is stored is not defined. It is important to note that the above listed claims address an

abstract idea, because certain data is collected and stored, without clearly defined

purpose. Similarly to the algorithmic calculations, wherein the obtained result is only

important if it is conducted for the particular reason.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16.   **Claims 1, 5, 6, 8, 16, 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan (US Patent 5146540) in the view of Anglin et al (US Publication 20040098363).**

As to claims 1 and 16, Natarajan teaches a method of performing file walk of a storage server comprising: determining a first and a second path on the server (Figure 2, wherein the computer accessed via network is considered as server; column 2, lines 13-28, wherein processor is considered to be an agent); collecting first information about the first path using a first agent (column 3, lines 60-64), collecting second information about the second path using a second agent (column 3, lines 50-68, wherein the multiple processors are allocated to process corresponding sub-trees), and storing the first and second information (column 4, lines 1 and 2). Natarajan however does not teach that those information are stored in a common format. Anglin teaches a hierarchical storage management wherein all the data is created and presented as a table of content (TOC) (Abstract and paragraphs 12 and 13). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to convert the information about the sub-trees (as taught by Natarajan) into a common format (as taught by Anglin) because it improves management of the matedata associated with the data objects ('363, paragraph 9).

As to claims 5 and 20, Anglin further teaches storing the first and second information on a database server (Figure 1, element 124; paragraph 14). It would have been obvious to one of the ordinary skill in the art during the time the invention was

made to store the gathered information on the database server, so it could be easily accessible by network computers in case there would be such a need.

As to claims 6 and 21, Anglin further teaches method wherein storing comprises the first and the second information in a first and a second table (paragraph 2). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to represent the information in the form of table because this would simplify data and space management (paragraph 16).

As to claims 8 and 23, Anglin teaches method further comprising combining the first and the second table into a third table (paragraph 16).

17.   **Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan (US Patent 5146540) in the view of Anglin et al (US Publication 20040098363) and further in the view of Willie et al (US Patent 6052724).**

As to claim 2 and 17, Natarajan and Anglin teach all the limitations disclosed in claims 1 and 16 respectively, however they do not explicitly teach that determining a first and second paths comprises dividing a directory structure into the first path and second path. Willie teaches a method for managing a directory service wherein directory tree is divided into partitions or sub-trees (column 7, lines 56-67). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to create a tree representing directory as taught by Willie, and use it in Natarajan and Anglin combined invention because Natarajan already teaches a tree structure with data nodes, he does not however explicitly state that the tree is representing directory but it is well known for those skilled in the art that the directory

can be expressed in a form of tree, wherein the structure can be divided into multiple

sub-trees (partitions) which further can be redistributed to multiple storage devices in

order to improve search efficiency.

18.   **Claims 3, 4, 18 and 19 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Natarajan (US Patent 5146540) in the view of Anglin et al (US

Publication 20040098363) and further in the view of Sim et al (US Publication

20030046369). Natarajan and Anglin teach all the limitations disclosed in claims 1 and

16 respectively, however they do not teach that the first agent uses the first file system

and second agent uses second (different) file system, wherein first file system

comprises NFS and the second file system comprises CIFS. Sim teaches a method for

distributing data among plurality of nodes, wherein distributed file system can be

implemented using any one of several known network file system protocols, for instance

Common Internet File System (CIFS) or Network File System (NFS). It would have been

obvious to one of the ordinary skill in the art during the time the invention was made to

use CIFS and NFS for file distribution as taught by Sim, because this system would

allow to be compatible with both Microsoft and Sun Microsystems file transfer

implementation, i.e. file transfer would be universal.

19.   **Claims 7 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable**

over Natarajan (US Patent 5146540) in the view of Anglin et al (US Publication

20040098363) and further in the view of Kouznetsov (US Patent 6973577).

Natarajan and Anglin teach all the limitations as disclosed in claims 1 and 16, however

they do not teach storing the first and the second information in a histogram.

Kouznetsov teaches a method for monitoring events wherein the method comprises the step of creating histogram describing the specific event (column 2, lines 55-57). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use histogram as taught by Kouznetsov and use it the information collection system taught by Natarajan and Anglin, because histogram allows to perform dynamic analysis, wherein the certain storage patterns can be easily recognized and reused to predict or estimate future memory usage.

20.   **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US Publication 20060041656) in the view of Willie et al (US Patent 6052724).** Li teaches all the limitations as disclosed in claim 9, however he does not explicitly teach that the first and the second paths represent a portion of a directory structure of the volume. Willie teaches a system for managing a directory service wherein directory tree is divided into plurality of sub-trees (plural paths), wherein the partitions of the directory can be redistributed to plural servers (column 7, lines 56-67). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to have two hosts (agents) as taught by Li to access two different portions of a directory as taught by Willie, because as Li teaches (paragraph 17), the agents capable of conducting file system extension, and this requires accessing the directories. Since there is more than one agent, it is also obvious that those agents are not designed to access one directory or file at the same time because that could lead to error.

21.   **Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US Publication 20060041656) in the view of Anglin et al (US Publication**

20040098363). Li teaches all the limitations disclosed in claim 9, however his disclosure lacks teaching about the database server storing the first and second information as a table. Anglin teaches a hierarchical storage management wherein the information is saved in the form of table of content (TOC) (paragraphs 2 and 15). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to store information in the form of table because this would simplify data and space management (paragraph 16).

22.   **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US Publication 20060041656) in the view of Sim et al (US Publication 20030046369).** Li teaches the system comprising two agents (Figure 1), however does not explicitly teach that those agents support two different file systems. Sim teaches a method for distributing data among plurality of nodes, wherein distributed file system can be implemented using any one of several known network file system protocols, for instance Common Internet File System (CIFS) or Network File System (NFS). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use CIFS and NFS for file distribution as taught by Sim, because this system would allow to be compatible with both Microsoft and Sun Microsystems file transfer implementation, i.e. file transfer would be universal.

23.   **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US Publication 20060041656) in the view of Kouznetsov (US Patent 6973577).** Li teaches all the limitations disclosed in claim 9, however he does not teach that the database server stores the first and the second information as a histogram. Kouznetsov

teaches a method for monitoring events wherein the method comprises the step of

creating histogram describing the specific event (column 2, lines 55-57). It would have

been obvious to one of the ordinary skill in the art during the time the invention was

made to use histogram as taught by Kouznetsov and use it the network system taught

by Li, because histogram allows to perform dynamic analysis, wherein the certain

storage patterns can be easily recognized and reused to predict or estimate future

memory usage.

Claim Rejections - 35 USC § 102

24.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the
> United States before the invention thereof by the applicant for patent, or on an international application
> by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
> title before the invention thereof by the applicant for patent.

25.   The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

26.   **Claims 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et**

al (US Publication 20060041656).

As to claim 9, Li discloses a storage system, comprising a storage server

(Figure 1,database) coupled to a volume having a first and a second path (Figure 1,

element 12a and 12b); a first agent coupled to the storage server, the first agent to scan

the first path to collect first information (Figure 1, elements Host A and SAN); a second

agent coupled to the storage server (Figure 1, elements Host B, and database), the

second agent to scan the second path to collect second information; and a database

server coupled to the agent (as shown in the figure 1, agents are coupled to the

database via the Manager), the database server to store the first and the second

information (paragraph 17, wherein the database has capacity to store collected

information).

As to claim 10, Li discloses a storage system further comprising: a multi-

appliance management application (MMA) (Figure 1, Manager) coupled to the storage

server (Figure 1, database) and the first and second agents (Figure 1, elements Host A

and B), the MMA to control the first and second agent (Figure 1, via LAN).

As to claim 11, Li discloses the storage wherein the MMA generates a graphical

user interface (GUI) (Figure 1, Manager view or admin).

The Prior Art

27.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- Peterson (US Patent 6915409) discloses a computerized information retrieval

system wherein data tree is split into multiple paths .

Conclusion

28.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

29.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

30.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Angela M Lie

DON WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100